

## Editorial

# Nutrigenomics Reveals the Hidden Problem of the World Today

Arefhosseini Seyed Rafie\* and Alijani Sepideh

Department of Biochemistry and Diet Therapy, Faculty of Nutrition and Food Sciences, Tabriz University of Medical Sciences, Iran

## Editorial

Generational epigenetic is the main concept that contributes its essential role through Nutrigenomics and the effects of diet before and after pregnancy reveals its pivotal role in the life of living creatures before and after birth. The effect of an unbalanced intake of micronutrients during pregnancy creates serious effects on the health of a newborn. This confusion is the hidden responsible for the disease-prone problem in the Genetic treasury. One of the most important examples is the number of chronic diseases that experience growing nature like the diabetic subjects in the present situation. Critical periods make their cooperation naturally to the various period of life and by the discovery of MicroRNA, the performance of disorders and specific characteristics for a newborn could be detected clearly [1]. Nutrition and Hereditary sectors are related together and beyond the conventional understanding from the concept of Gene, this new perception for the interaction of nutrients and gene have revealed the probable prevalence of the reason for development of chronic diseases that looks more probable rational for the development of different disorders. Molecular nutrition shows a brighter appearance and what could be done is about the emergence of common chronic diseases. This subject can now be discussed more accurately [2]. According to the recent survey in the world approximately 131 Million people around the world were affected by different types of Diabetes and its prevalence in 2014 was 8.4% [3] however they are expected to exceed 640 million by the year 2040 [4-6]. In confirmation that parental nutrition and lifestyle affect children's metabolic phenotype [4], a recent study by Vickers Mark H had reported that consumption of a high-fat diet by parents leads to impaired glucose metabolism in the next generation (offspring). The percentage of abdominal fat in their children would be high at the age of 6, which increases the risk of type 2 diabetes in some decades of their life. This point has clearly occurred in the world and including to the developing countries like Iran. In 2017 with the occurrence of obesity in Iranian children reported an important fact, which is a prognosis for the high prevalence of chronic diseases in the next generation, but the reality and the secrecy of the

ongoing and hidden problem would be declared by abilities of this new technique of Nutrigenomic. It is informed that the consumption of foods during various periods of life is discussed incorrectly. In fact the mentioned parameters have been raised to address the issue of DNA methylation and it also follows the discussion for epigenetic control for the developed consequences in the next generation, thus extending the scope of the genome debate nutrition to disease. It makes sense if one would expect, the molecular nutrition relates to later generations, as if an epigenetically unbalanced diet simply relates to more obvious changes that could be produced by a simple intake of unbalanced supplements, this issue makes clear in the spread time of life before and during pregnancy. The use of nutrients with double function by both parents, uterus environment for mothers and uterine life for the fetus and besides more before fertilization for kid's father, could be considered effective in the long run on the health of children and adults. Under these circumstances, the occurrence of metabolic abnormalities should be considered as the cause of epigenetic manipulations, which are the core of all conceivable states [7] and the other critical fact in this issue is the effects of some soluble vitamins such as vitamins B2, B6 and B12 and folate that are essential for DNA methylation. [8]. To have physically improved generations in humans and even reducing the possibility of developing emerging chronic diseases among the next generations, would be more reasonably applied and to substantiate for developed out comes could also be sought and diet during early periods in the fetus reveals its long-term effects on the child and this is due to the openness and work around the epigenetic field [8].

## References

1. Ambros Victor. MicroRNAs: Tiny Regulators with Great Potential. *Cell*. 2001;107(7):823-6.
2. Chavatte-Palmer P, Tarrade A, Rousseau-Ralliard D. Diet before and during Pregnancy and Offspring Health: The Importance of Animal Models and What Can Be Learned from Them. *Int J Environ Res Public Health*. 2016;13(6):586.
3. Geraghty Aisling A, Lindsay Karen L, Alberdi Goiuri, McAuliffe Fionnuala M, Gibney Eileen R. Nutrition During Pregnancy Impacts Offspring's Epigenetic Status—Evidence from Human and Animal Studies. *Nutr Metab Insights*. 2016;8(1):41-7.
4. Godfrey KM, Costello PM, Lillycrop KA. Development, Epigenetics and Metabolic Programming. *Nestle Nutr Inst Workshop Ser*. 2016;85:71-80.
5. Ng S, Lin R, Laybutt D. Chronic high-fat diet in fathers programs  $\beta$ -cell dysfunction in female rat offspring. *Nature*. 2010;467(7318):963-6.
6. Regional Committee for the Western Pacific, 064. Noncommunicable diseases (Resolution). Manila: WHO Regional Office for the Western Pacific. 2013.
7. Vanhees K, Vohnhøgen IG, van Schooten FJ, Godschalk RW. You are what you eat, and so are your children: the impact of micronutrients on the epigenetic programming of offspring. *Cell Mol Life Sci*. 2014;71(2):271-85.
8. Vickers Mark H. Early Life Nutrition, Epigenetics and Programming of Later Life Disease. *Nutrients*. 2014;6:2165-78.

**Citation:** Rafie AS, Sepideh A. Nutrigenomics Reveals the Hidden Problem of the World Today. *World J Nutr Food Sci*. 2020;1(1):1004.

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**Publisher Name:** Medtext Publications LLC

**Manuscript compiled:** Nov 02<sup>nd</sup>, 2020

**\*Corresponding author:** Seyed Rafie Arefhosseini, Department of Nutritional Biochemistry, School of Nutrition & Food Sciences, Tabriz University of Medical Sciences, Attar Neishaboori Ave, Golgasht St, Tabriz, 5166614711, Iran, Tel: +984113357580-3; E-mail: arefhosseinir@tbzmed.ac.ir; srarefhosseini@gmail.com